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SORT MIDDLE, SCREEN SPACE, GRAPHICS GEOMETRY COMPRESSION

THROUGH REDUNDANCY ELIMINATION

ABSTRACT OF THE DISCLOSURE

5   A geometry compression method for sort middle, screen space, graphics of the

standard graphics pipeline. The pipeline processes a 3D database having geometric

objects such as triangles and textures into a display image which may be shown to the

user on a display monitor. Lossless compression is achieved through redundancy

elimination. Triangles are processed following their transformation to screen space, so

10   that the vertex world 3D locations are determined in their projection to the screen 2D

locations. Triangles may also be processed by back projecting the screen space scanlines

to test locations against the world space triangles. The general technique is to identify the

portions of the data that have little or no effect on the rendered output and remove them

during compression. Specific examples disclosed include full packing, constant color,

15   delta coding, edge sharing, slope coding, and color quantization.